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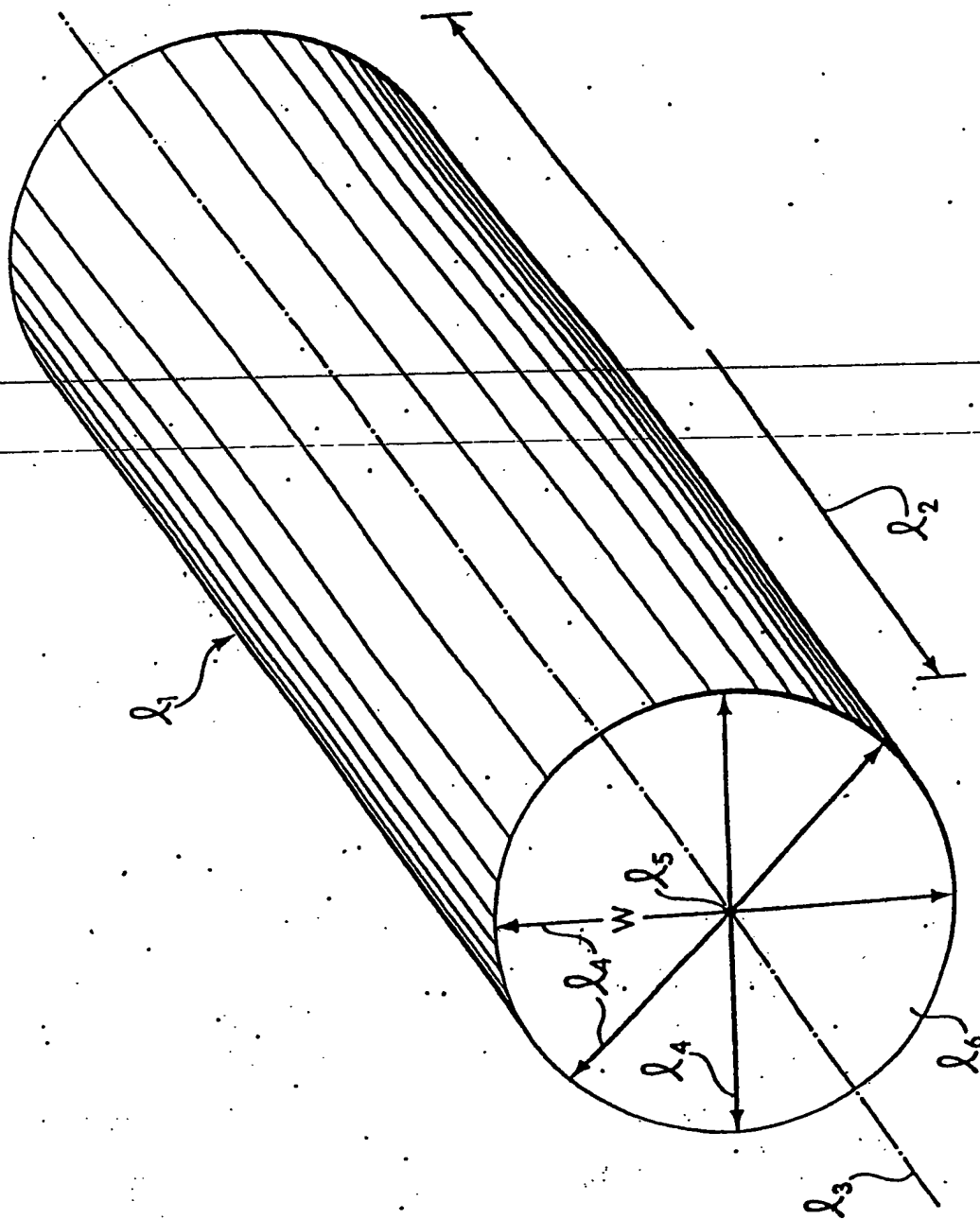


Fig. 1

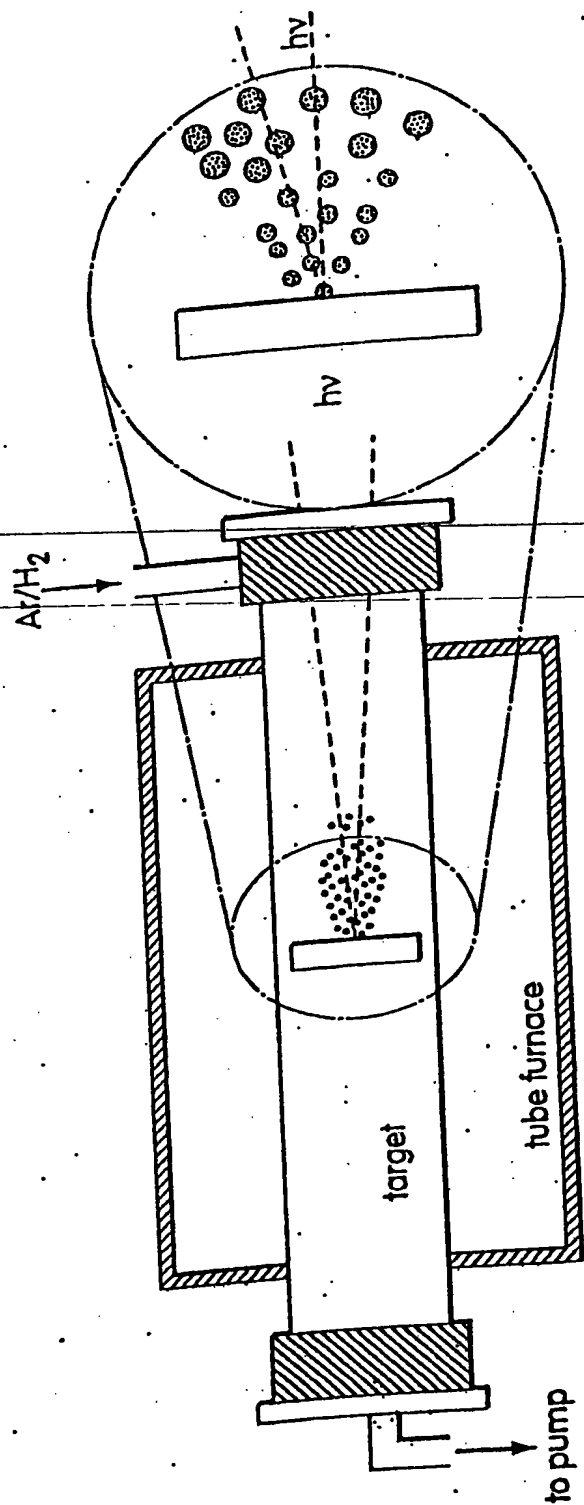


Fig. 2

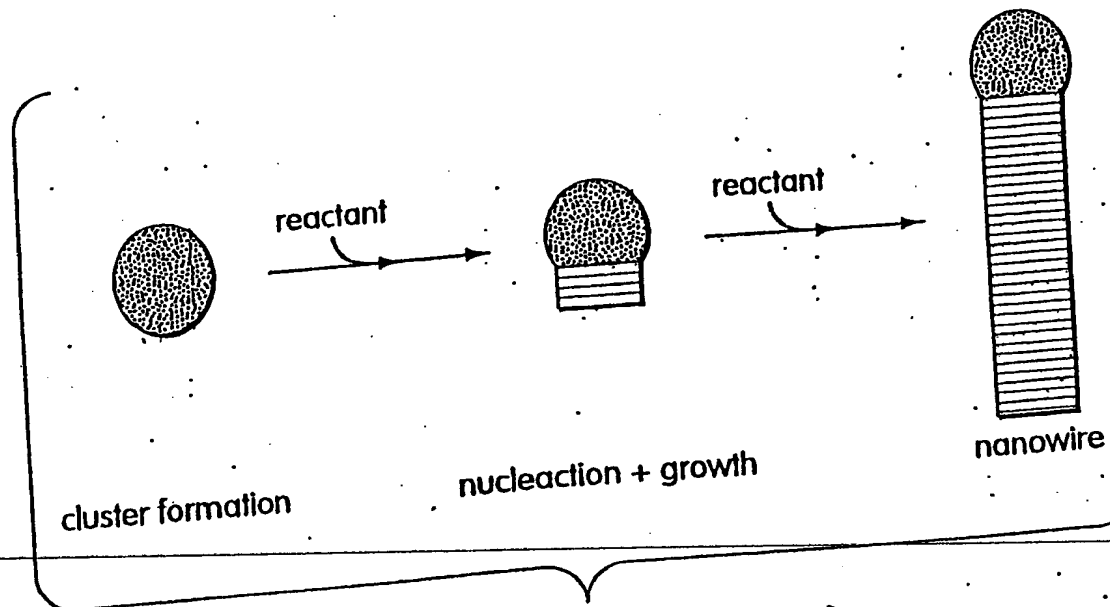


Fig. 3

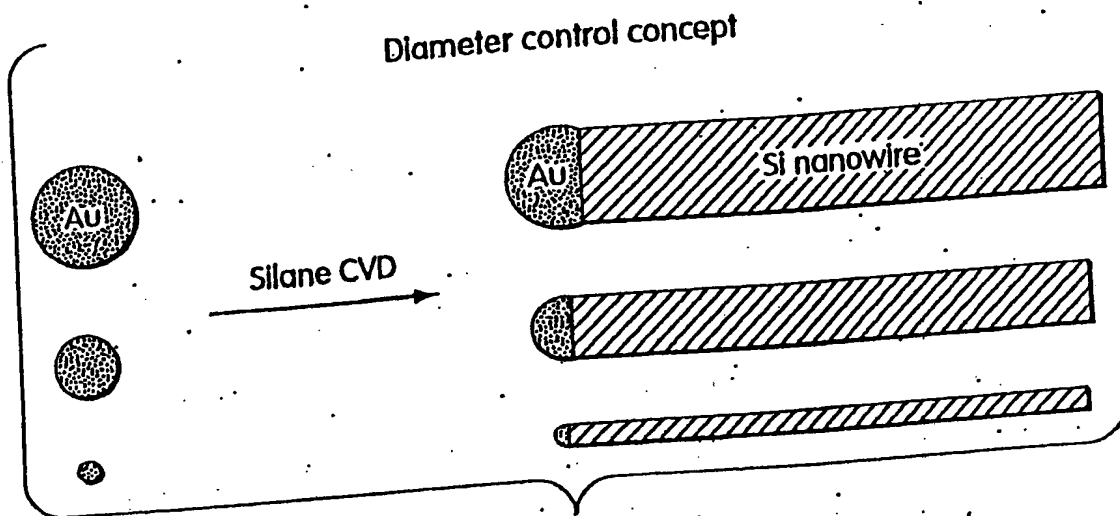


Fig. 4

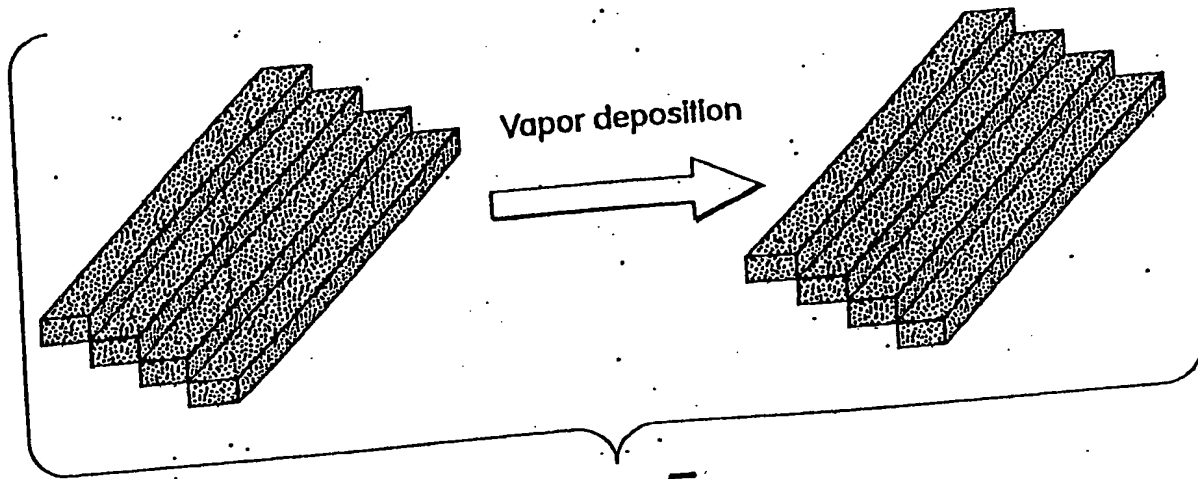


Fig. 5

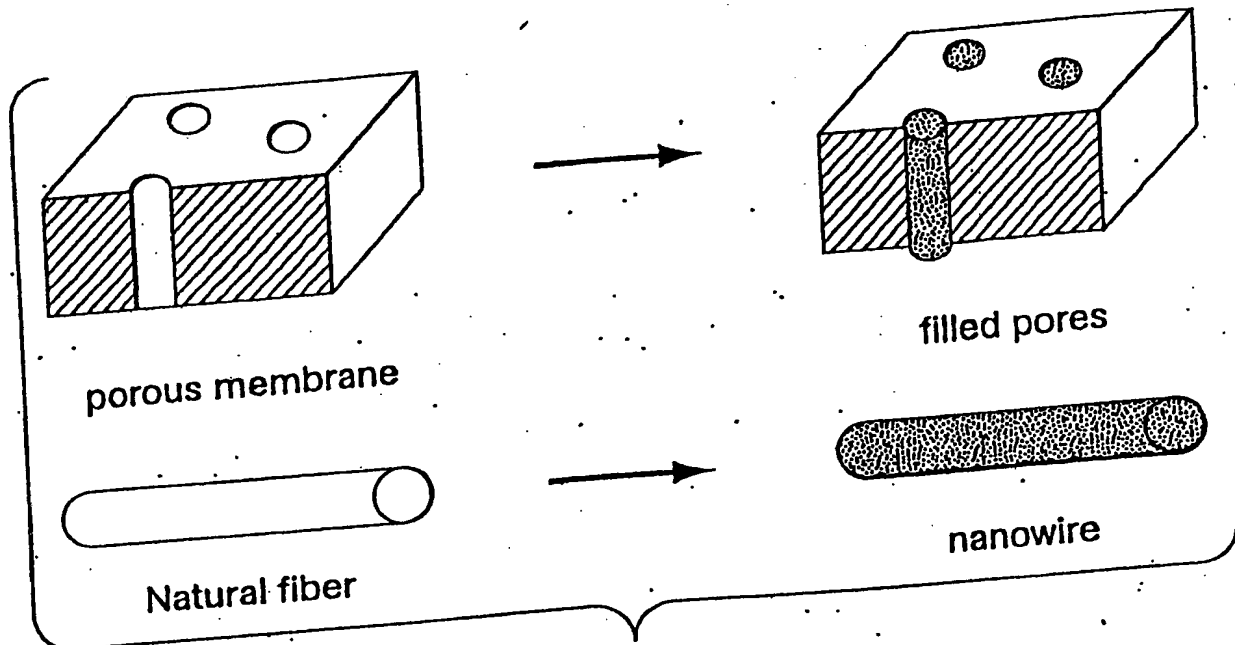


Fig. 6

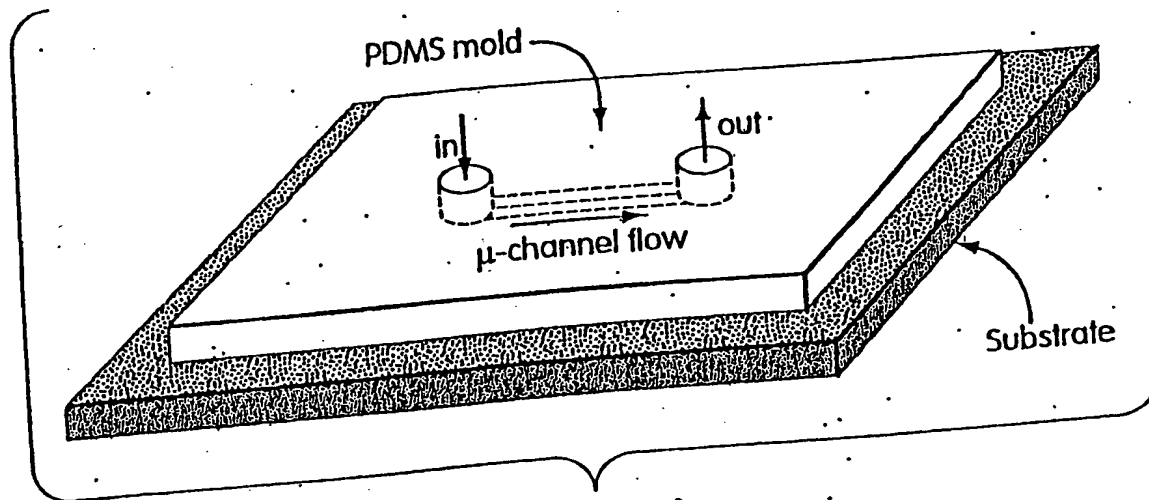


Fig. 7A

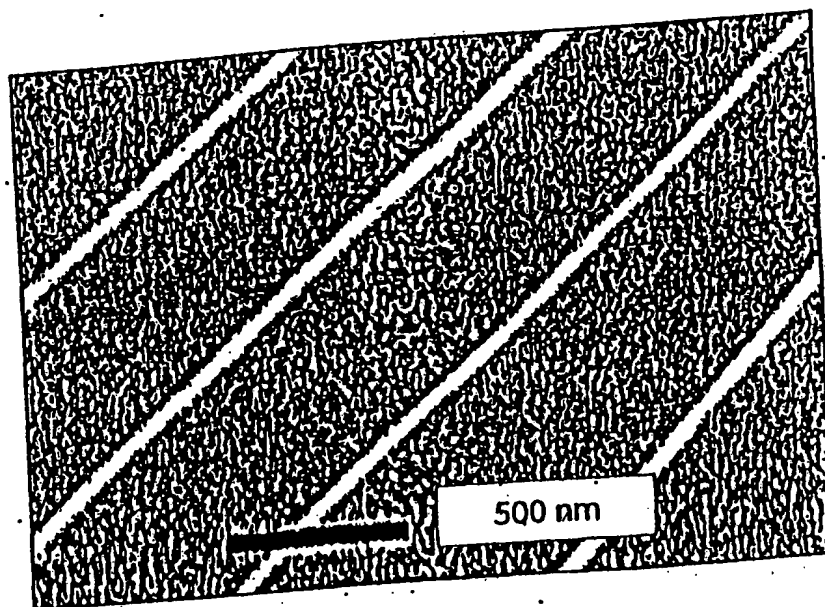


Fig. 7B

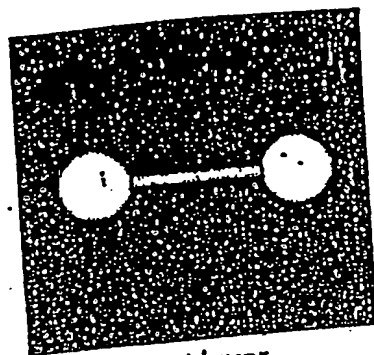
H0498.70203US01

Nanoscale Coherent Optical Components

Inventors: Lieber et al.

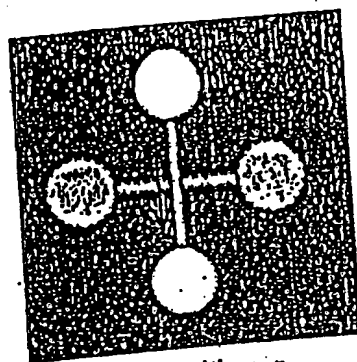
Express Mail Label No. EV292456995US

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First layer

Fig. 7C



Second layer

Fig. 7D

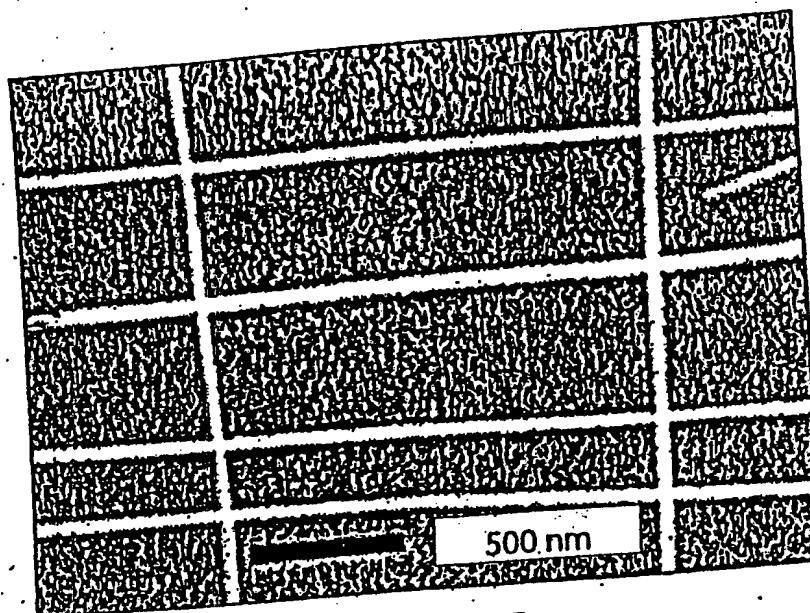


Fig. 7E

I. DIRECT GROWTH

(a) DEFINE NANOCLUSTER CATALYST



(b) INITIAL LCG SEMICONDUCTOR GROWTH



(c) SECOND LCG SEMICONDUCTOR GROWTH

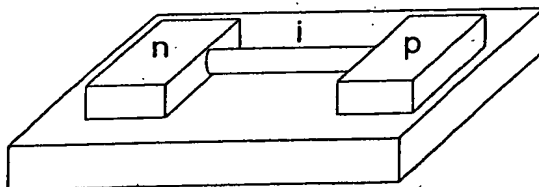


(d) REPEAT (b) OR (c) AS DESIRED



II. POST-SYNTHESIS FUNCTIONALIZATION

(a) FABRICATE NANOWIRE DEVICE



(b) INTRODUCE DOPANTS BY ANNEALING

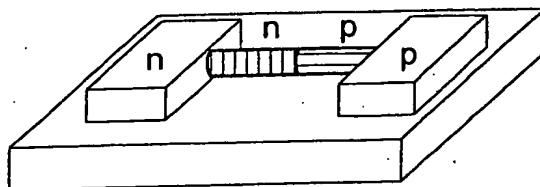


Fig. 8

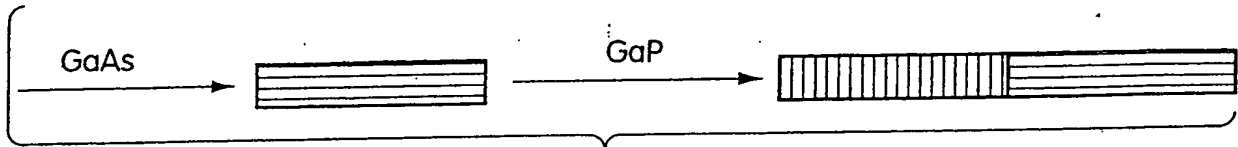


Fig. 9A

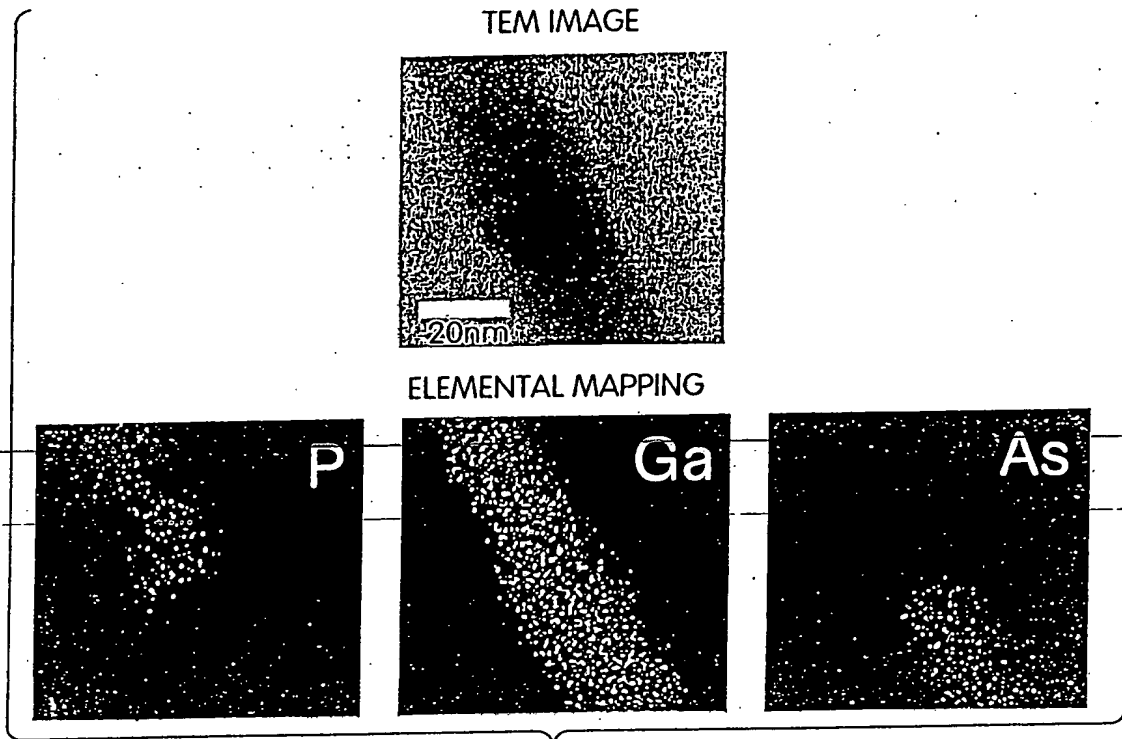


Fig. 9B

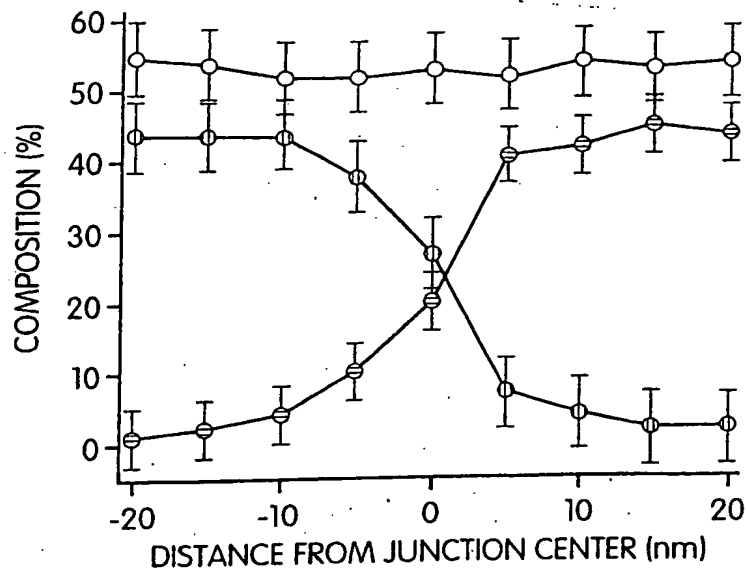


Fig. 9C

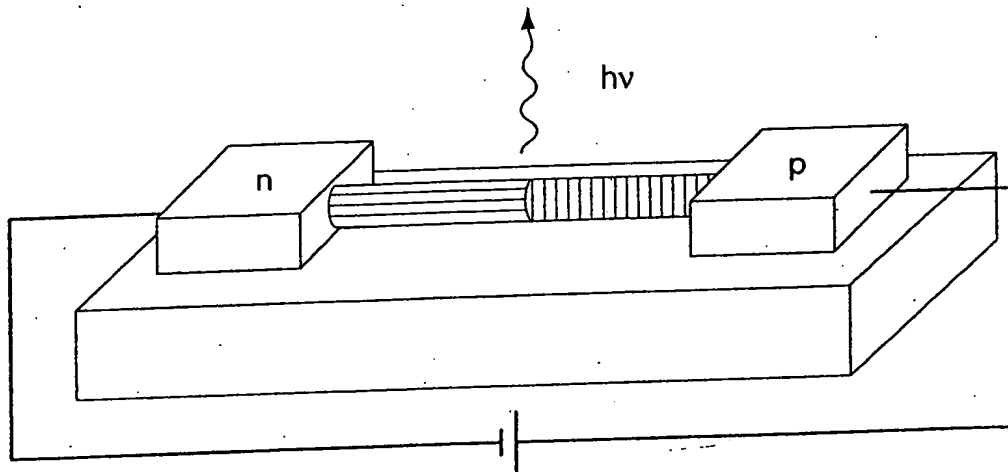


Fig. 10A

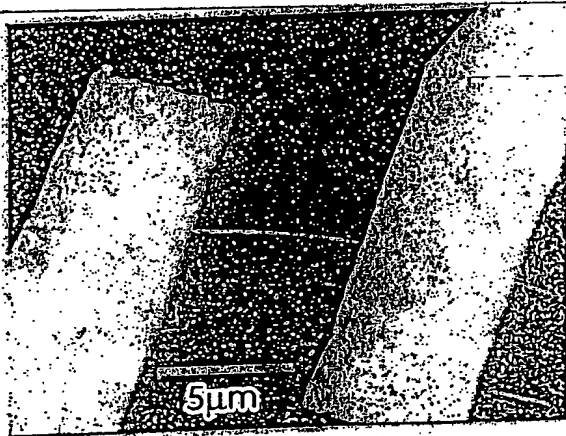


Fig. 10B

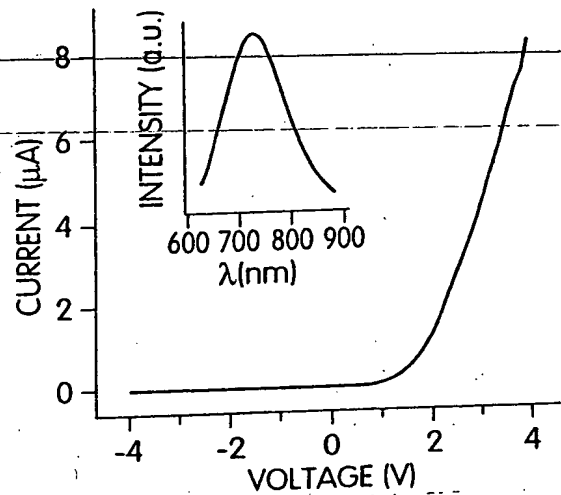


Fig. 10C

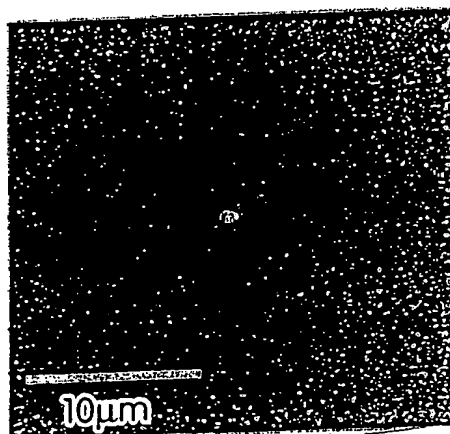


Fig. 10D

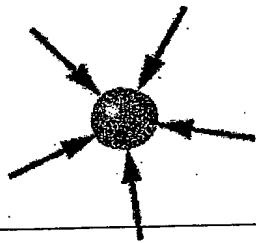


FIG.
11A

FIG.
11B

FIG.
11C

FIG.
11D

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Nanoscale Coherent Optical Components

Inventors: Lieber et al.

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FIG.
12A



FIG.
12B

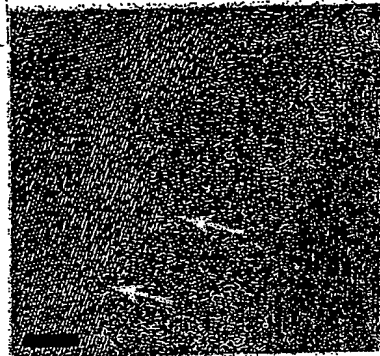


FIG.
12C



FIG.
12D

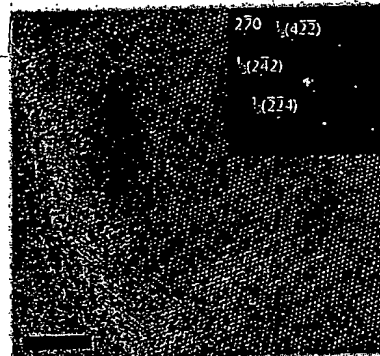


FIG.
12E



FIG.
12F

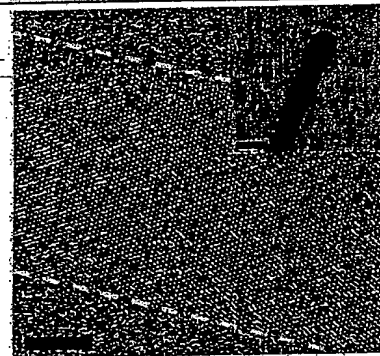
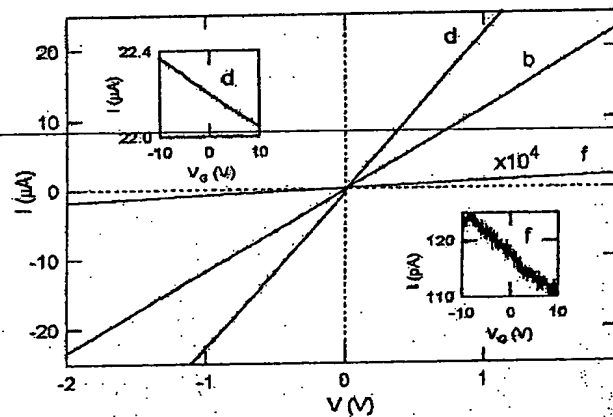


FIG.
12G



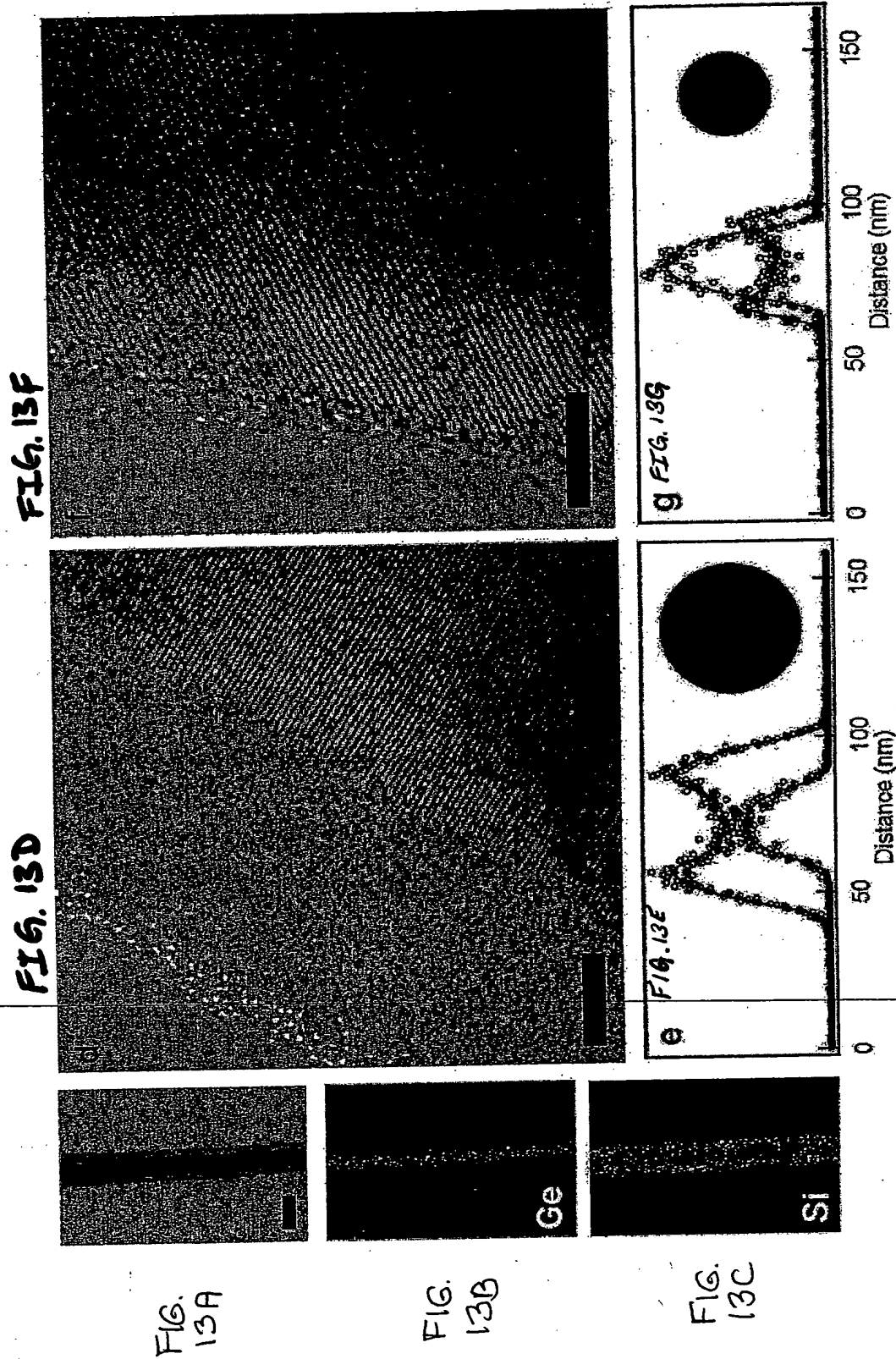


FIG.
14A

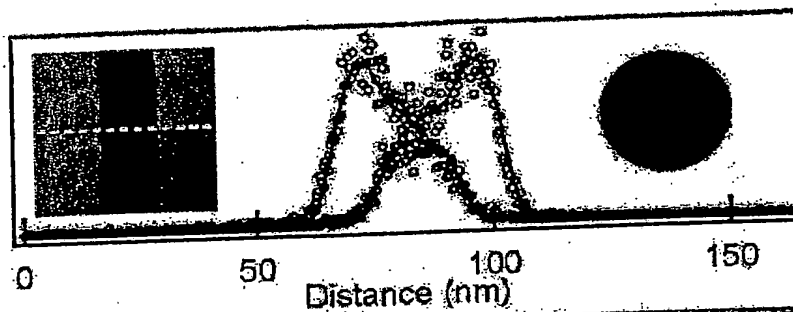


FIG.
14B

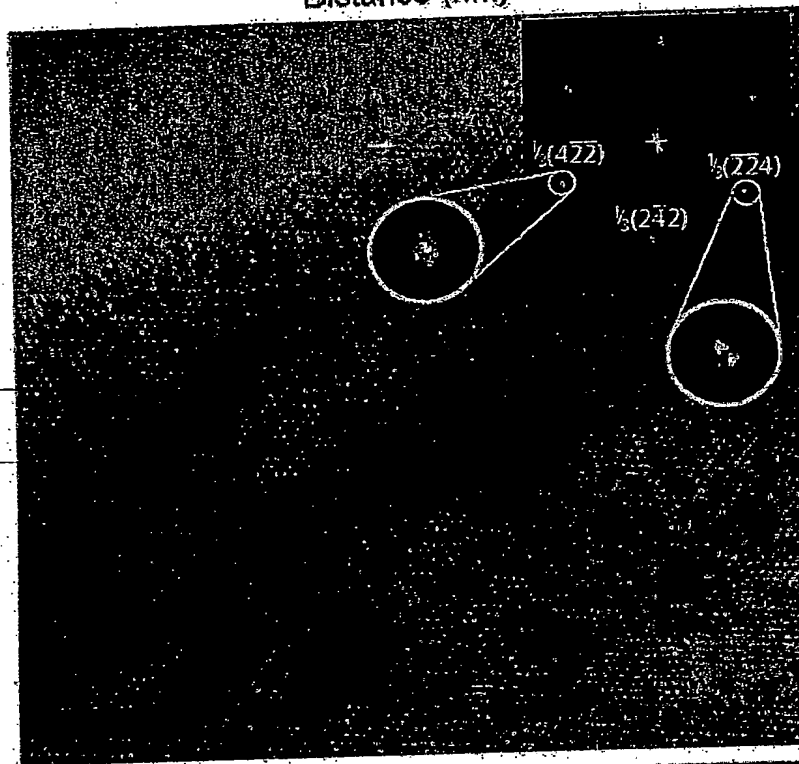


FIG.
14C

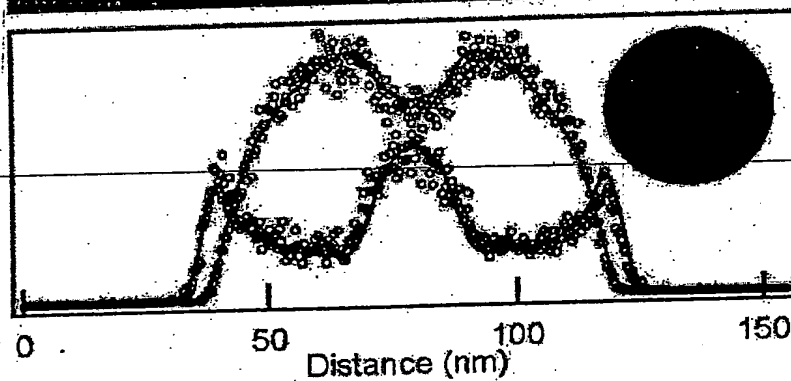


FIG.
15A

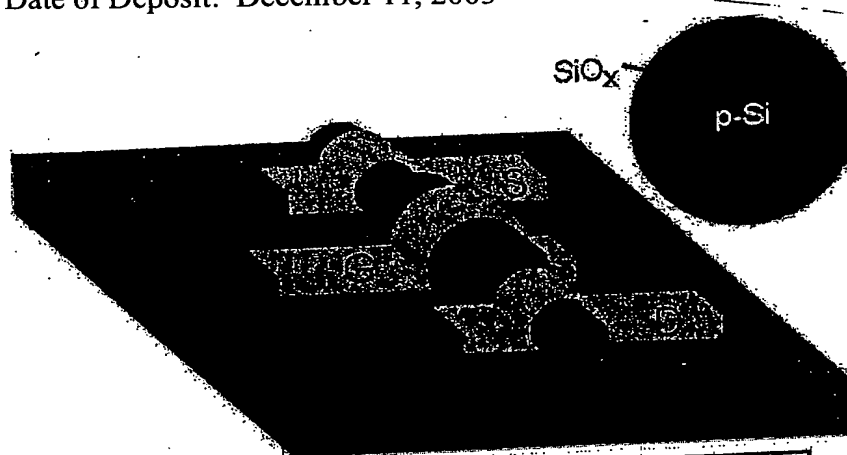


FIG.
15B

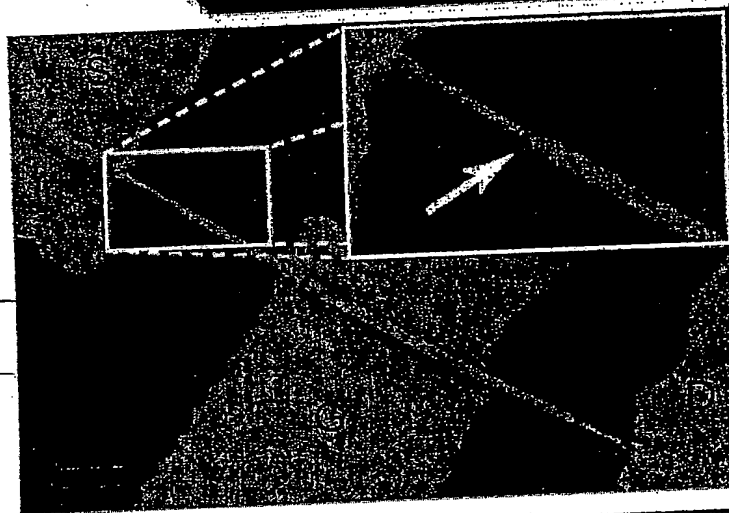
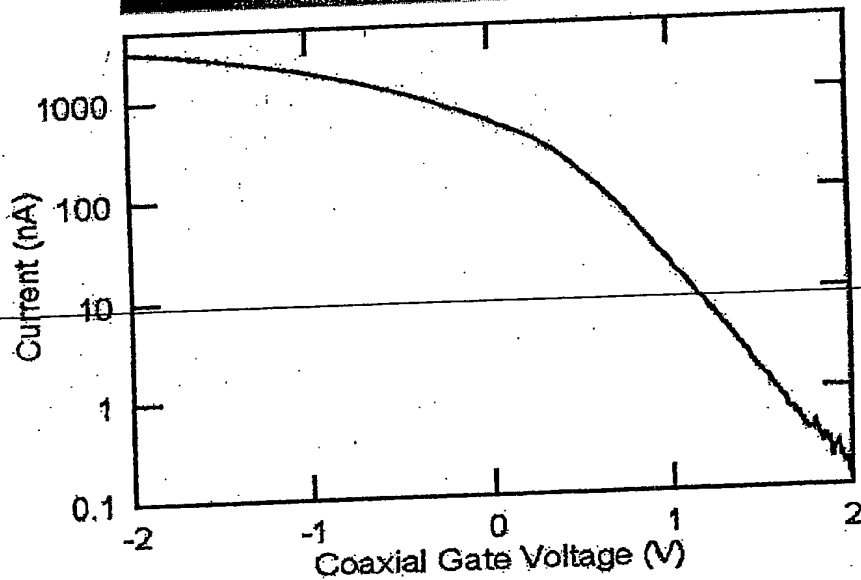


FIG.
15C



H0498.70203US01

Nanoscale Coherent Optical Components

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FIG. 16A

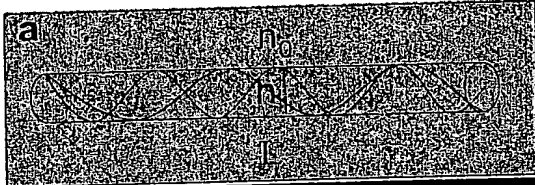


FIG. 16B

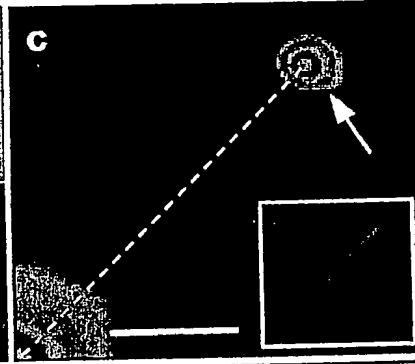
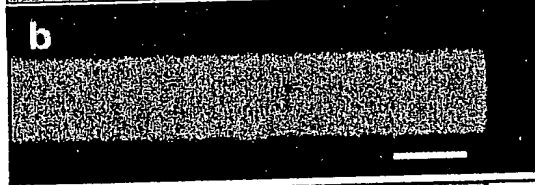


FIG. 16C

FIG. 16D
Intensity (a.u.)

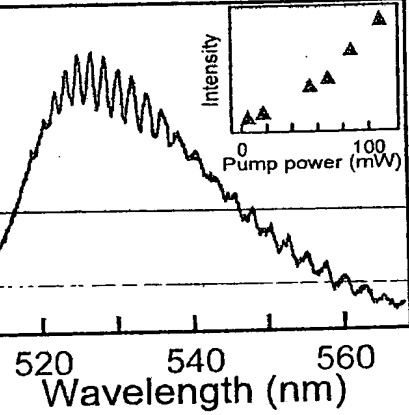
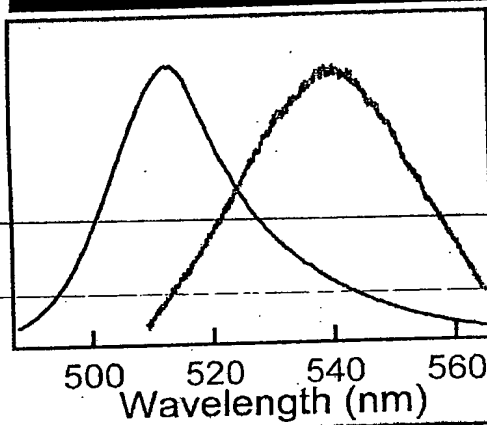


FIG. 16E

FIG. 16F

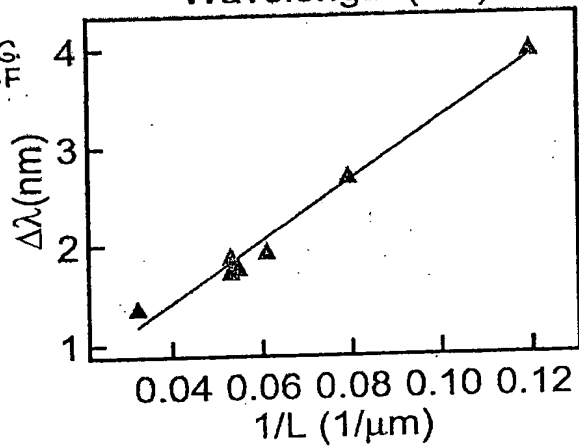


FIG.
17A

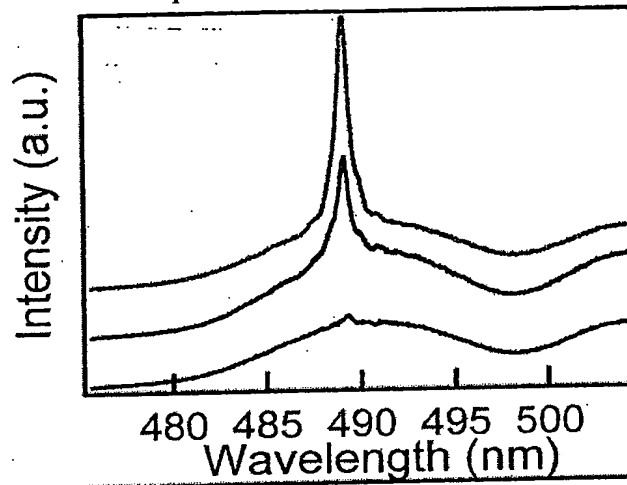


FIG.
17B

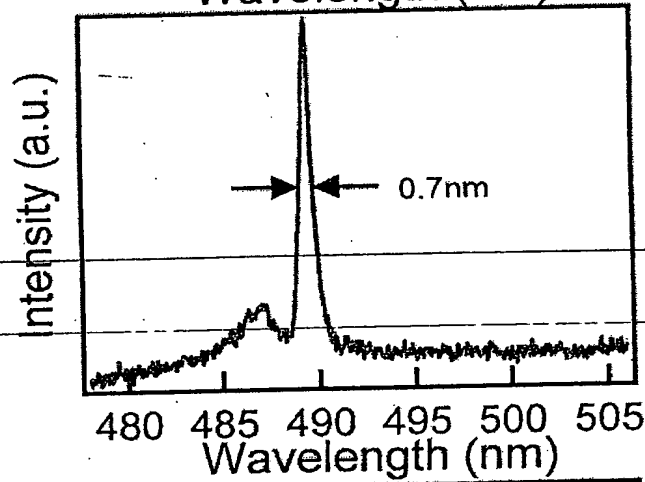


FIG.
17C

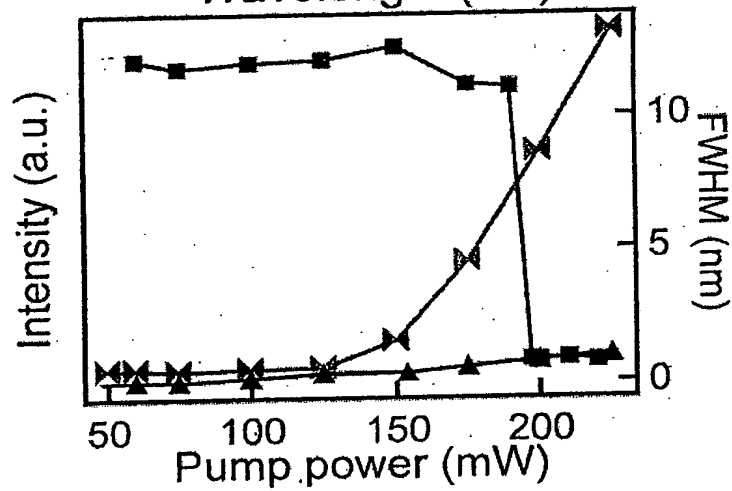


FIG.
18A

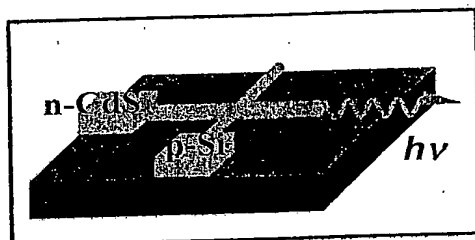


FIG.
18C

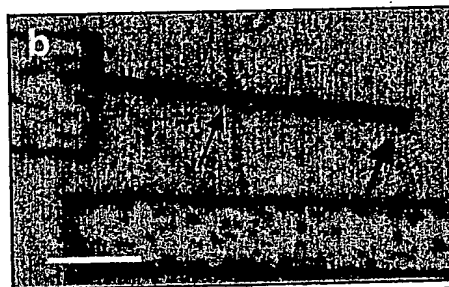
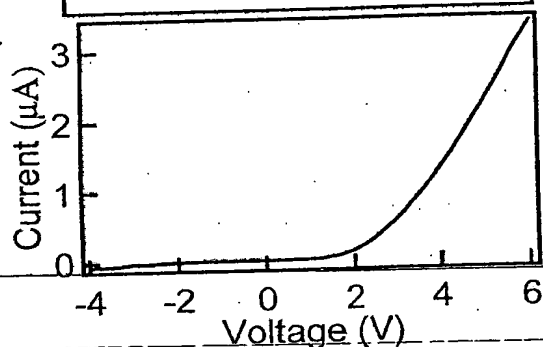


FIG.
18B

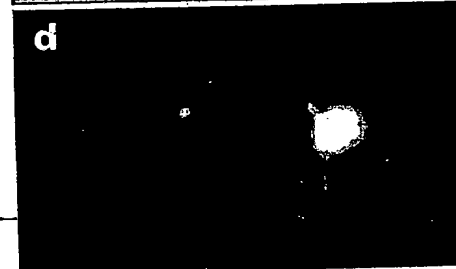


FIG.
18D

FIG.
18E

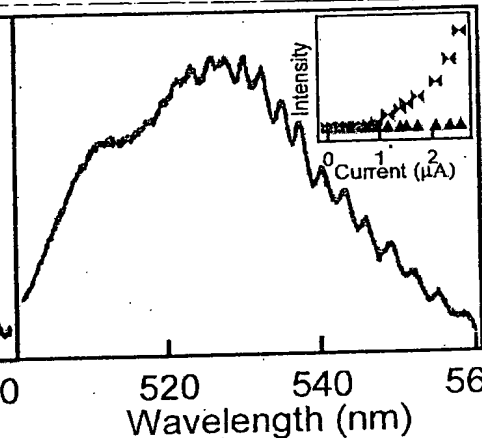
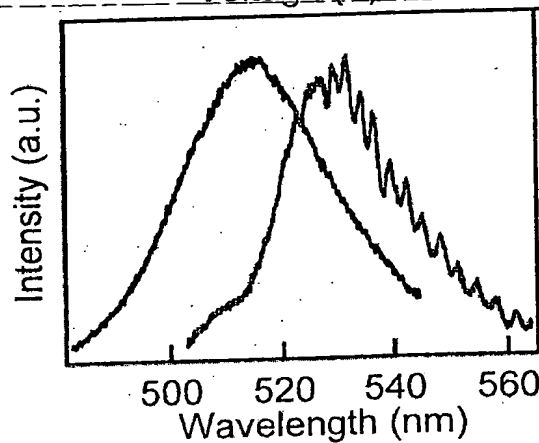


FIG.
18F

Fig. 18C

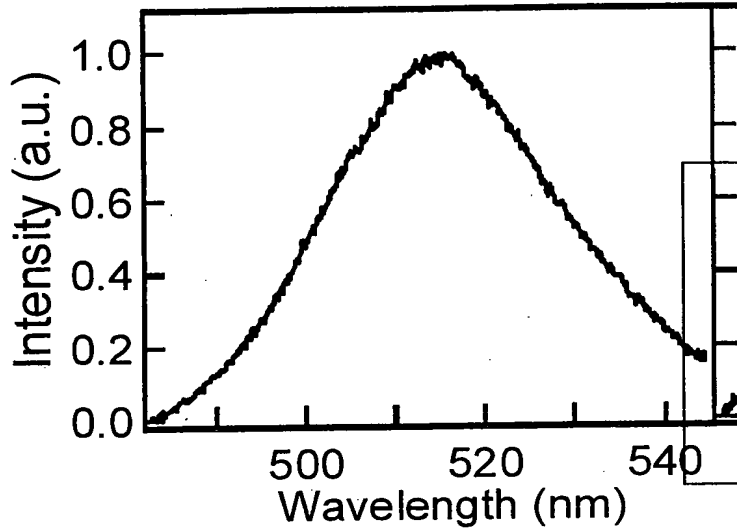


Fig. 18H

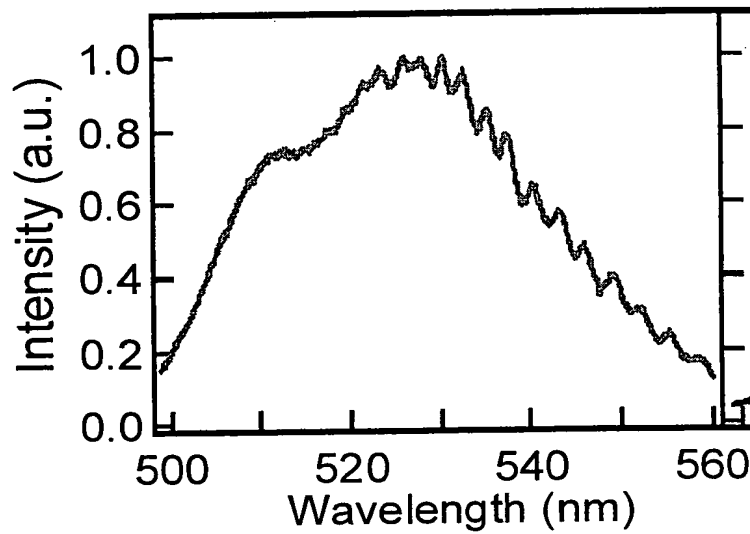
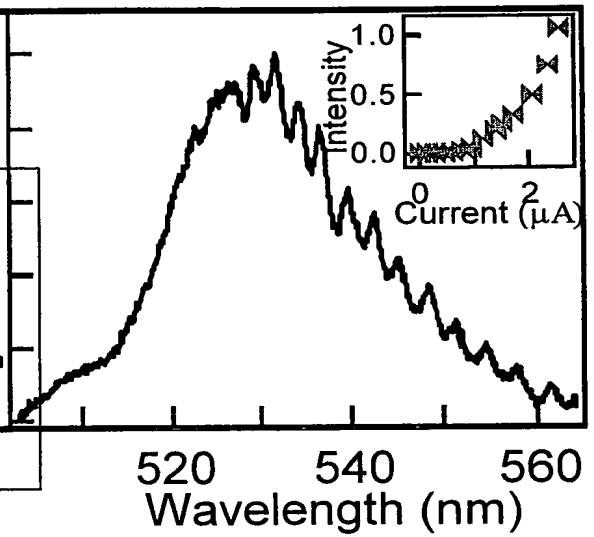


Fig. 18Z

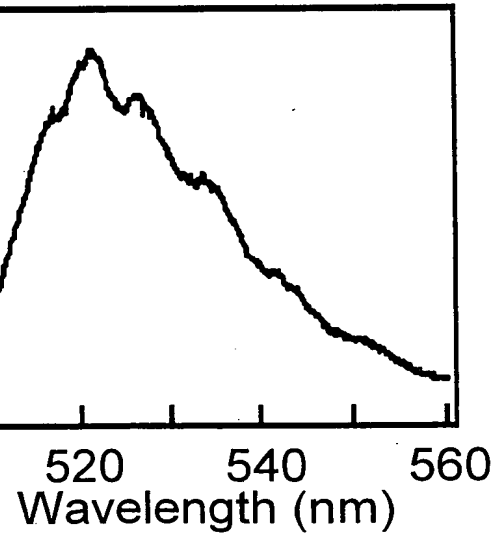


Fig. 18J

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Nanoscale Coherent Optical Components

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FIG.
19A

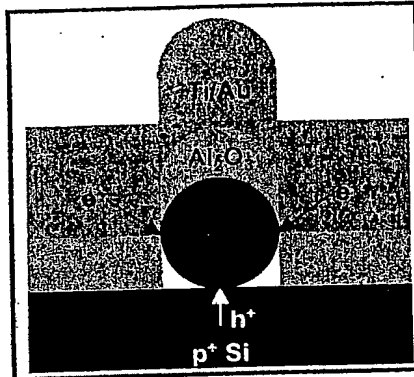


FIG.
19B

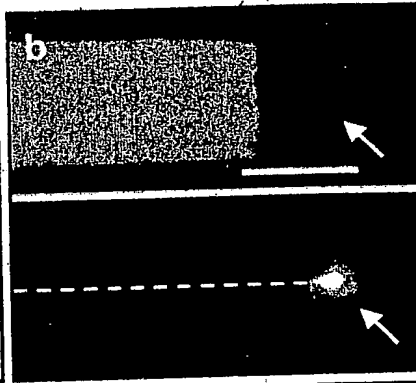


FIG.
19C

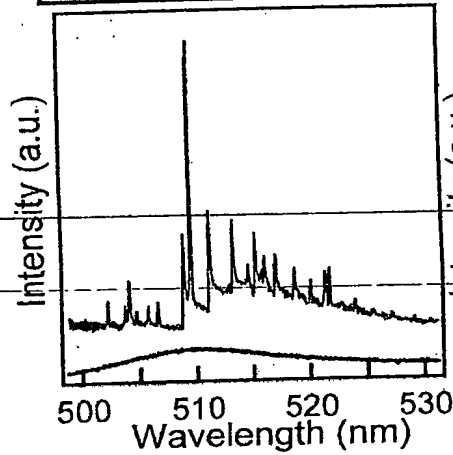
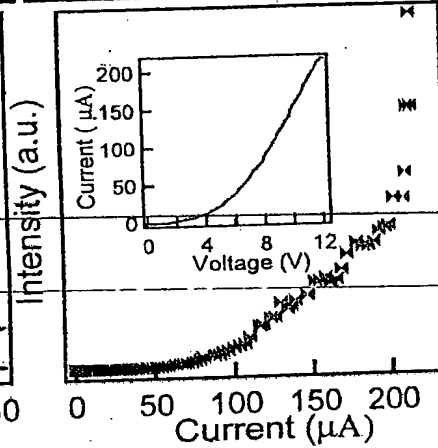


FIG.
19D



H0498.70203US01
Nanoscale Coherent Optical Components
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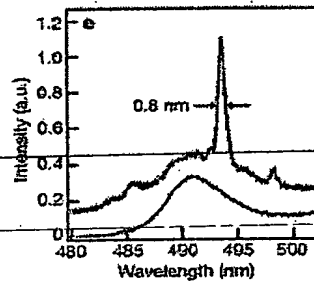


FIG. 19E

FIG. 20A

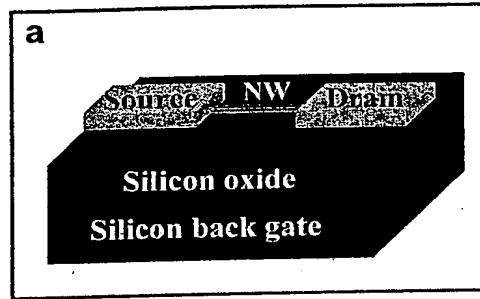


FIG. 20B

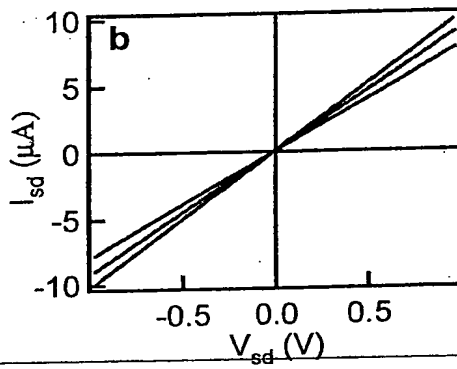


FIG. 20C

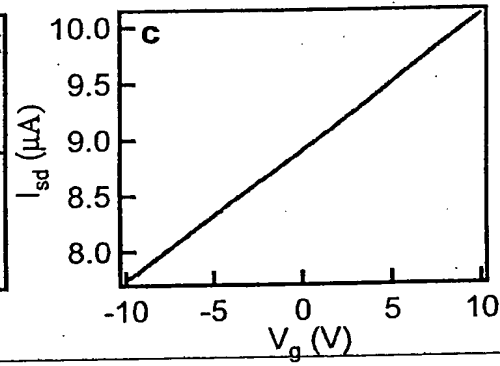
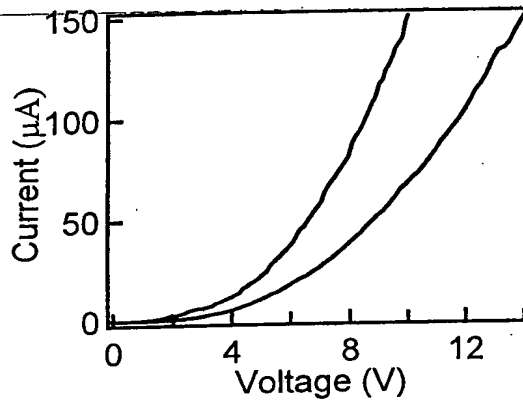


FIG. 21



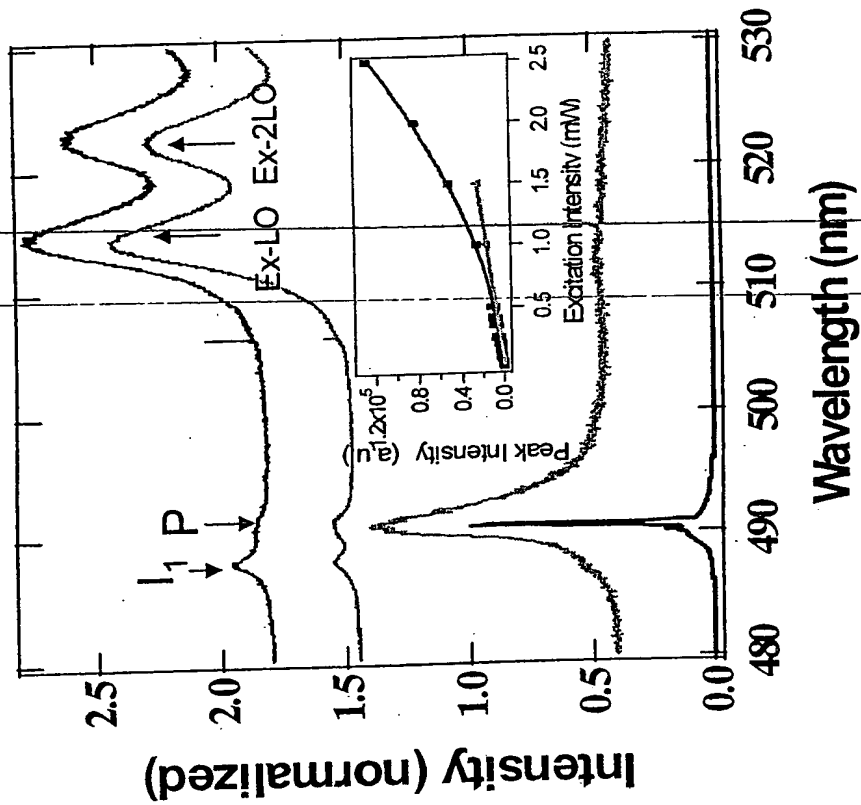


Fig. 22A

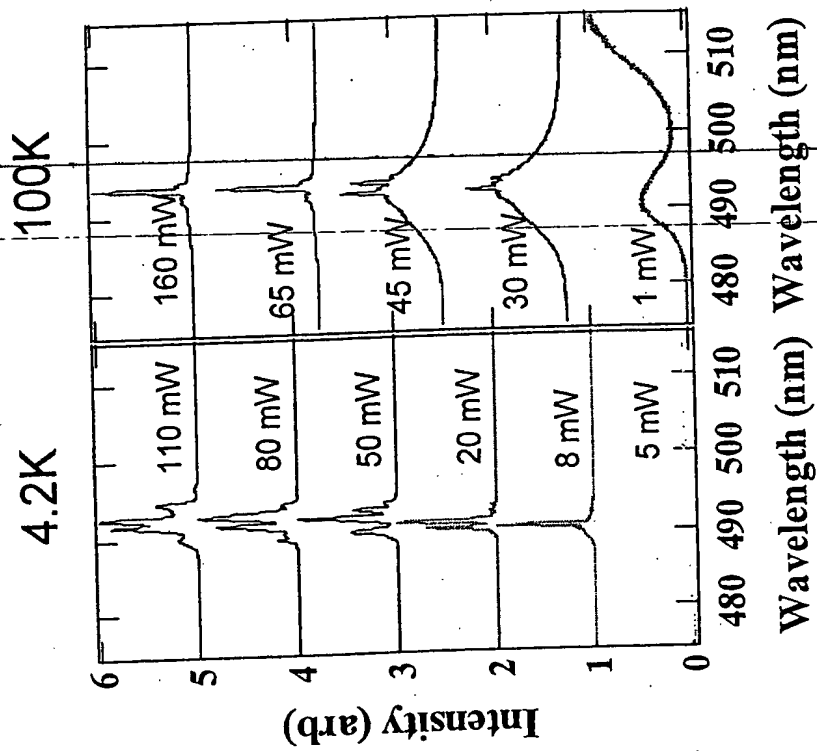


Fig. 22B

H0498.70203US01
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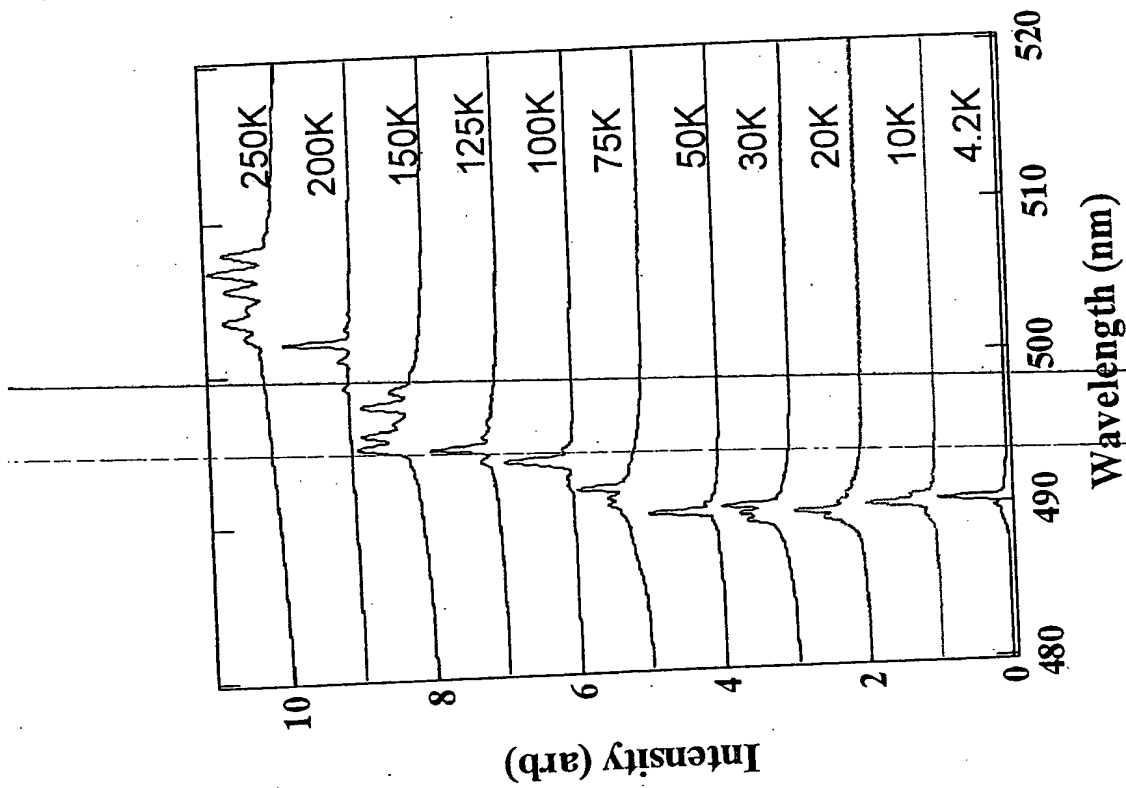


Fig. 220

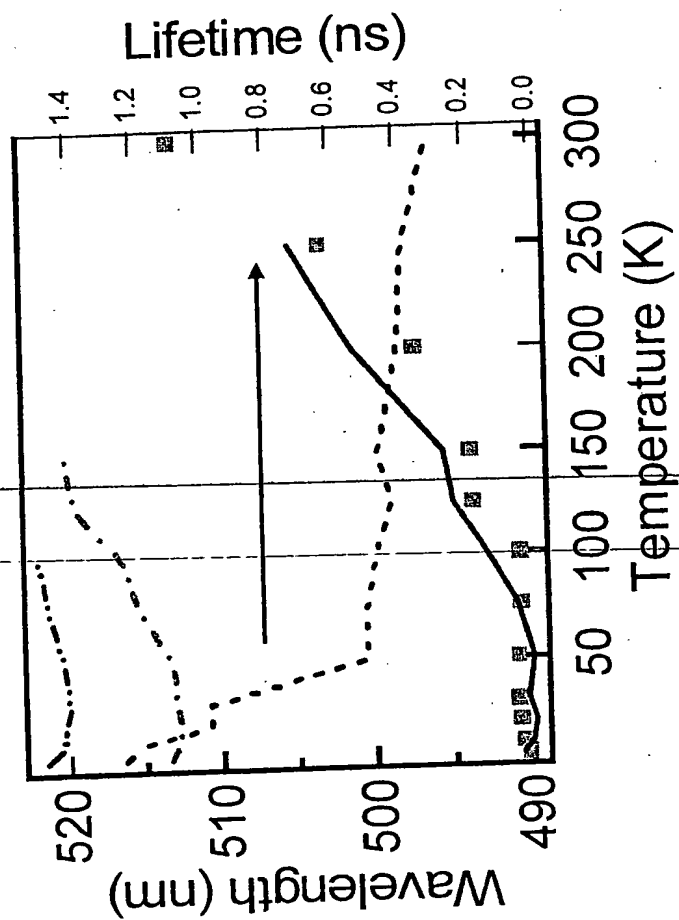


Fig. 82D

Fig. 23A

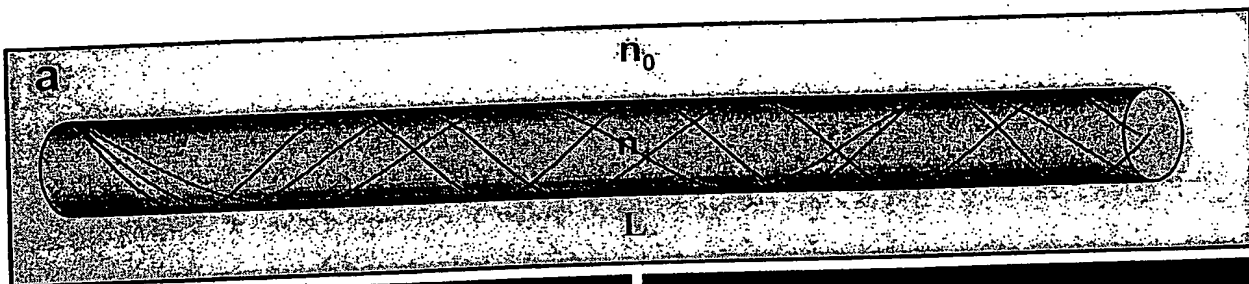


Fig. 23B

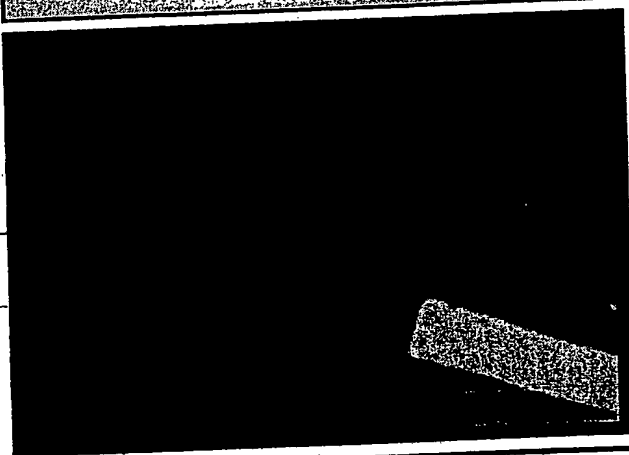


Fig. 23C

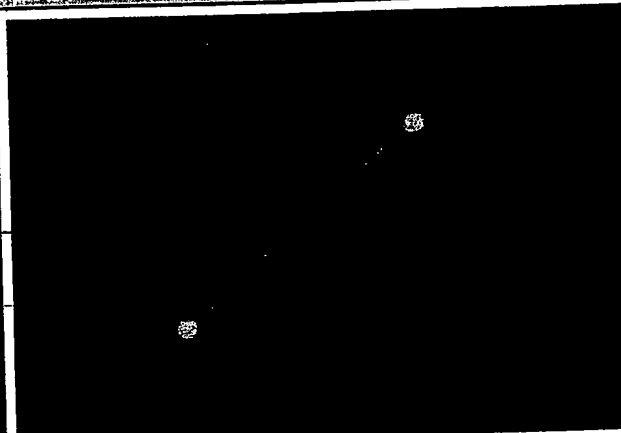


Fig. 23D

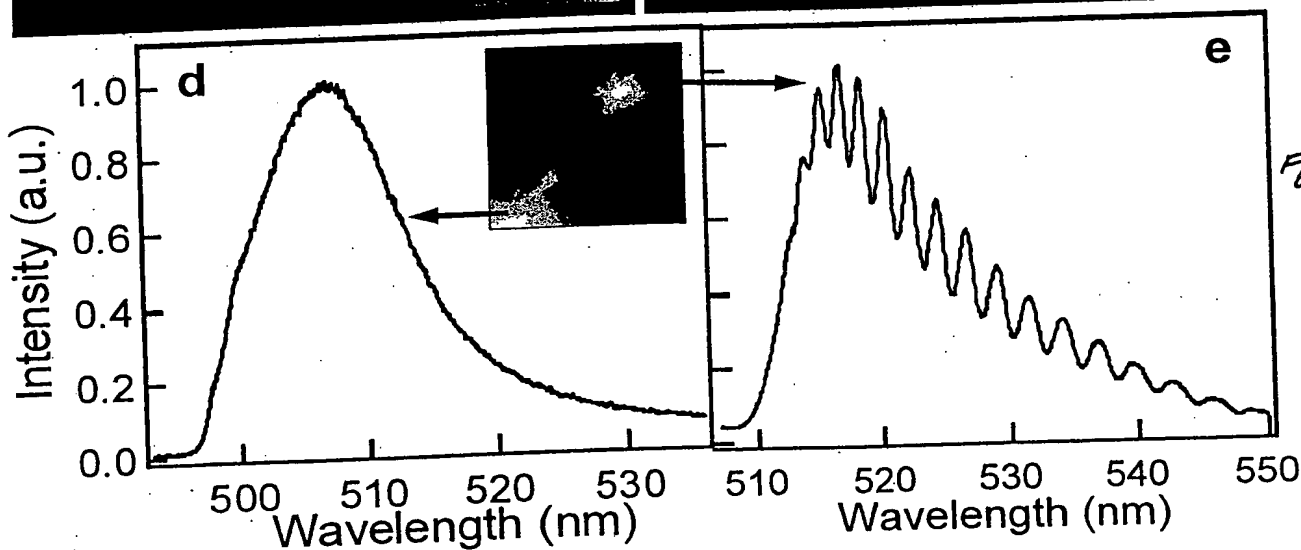


Fig. 23E

Fig.
24a

Hole injection

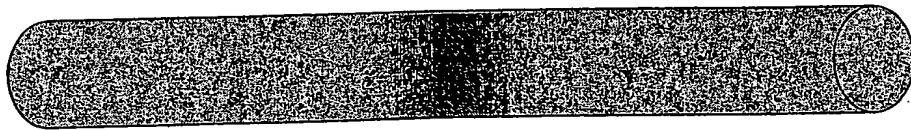


Fig.
24b

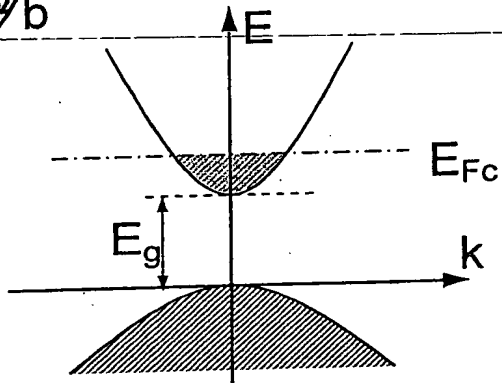


Fig.
24c

